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MULTI-STANDARD TURBO INTERLEAVER USING TABLES

PRIORITY

This application claims priority to an application entitled "Interleaver for a turbo encoder and decoder" filed at the UK Patent Office on December 11, 2003 and assigned Serial No. GB0328783.6.

BACKGROUND OF THE INVENTION

1.   Field of the Invention

The present invention relates to an interleaver for a turbo encoder and decoder.

2.   Description of the Related Art

Wireless communication systems are widely deployed to provide various types of communications such as voice and data. One such system is wide band code division multiple access WCDMA, which has been adopted in various competing wireless communication standards, for example 3rd generation partnership project 3GPP and 3GPP2.

To overcome data corruption that can occur during RF transmission the different wireless communication standards typically include some form of channel coding, where one common channel coding technique is turbo coding.

Turbo coding involves the use of a turbo encoder for encoding a code segment (i.e. a data packet) and a turbo decoder for the decoding of the encoded code segment.

As shown in figure 1, a turbo encoder 100 includes two convolutional encoders 101, 102 and an interleaver 103, where the interleaver 103 shuffles (i.e. interleaves) the information bits in the packet in accordance with a specified interleaving scheme.